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ABSTRACT

In order to understand creative decisionmaking in the rapidly changing global marketplace, business executives must view, interpret, and analyze events with new vision. A framework for understanding old thought patterns is provided along with suggestions on ways in which the humanities and social sciences (and other liberal arts) can help the business executive with creative reframing. More and more difficult decisionmaking in nontraditional arenas is required in the global marketplace, and the background of a liberal arts education can be helpful because it includes a variety of esthetic, historical, and cross-cultural insights. A mind-set found in many business executives includes the following assumptions: a knowable reality that can be understood in terms directly applicable to product development and positioning (with economics and human needs the two primary aspects); a causal and linear model as a template for action; a predictable future; and the ability to make rational decisions and be judged on the rightness or wrongness of these decisions. There are problems with each of these assumptions because the marketplace is moving inexorably away from a single-focus mind-set. Reframing includes underlying dimensions. For business decision-makers, it suggests that reality is not absolute, that reframing is the way paradigms change, that the ability to reframe can be taught, and that creating alternate futures based on different paradigms is central to long-term planning. Models then become metaphors for one frame, not approximations of a final, knowable reality. Three corporate case studies (Colgate-Palmolive soap paste in Latin America, the Volva workplace, and Rural/Dutch/Shell economic forecasting) using the alternate mind-set are discussed. The importance of a liberal arts education is stressed. (SM)

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REFRAMING AND THE LIBERAL ARTS:

CREATIVE DECISION-MAKING IN THE GLOBAL MARKETPLACE

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If executives are to develop appropriate strategies for their companies in a rapidly changing global environment, they need to have new and appropriate lenses through which to observe events and to interpret and analyze information for a variety of contexts. In many cases, old and familiar techniques for problem solving are found wanting, and avenues which permit executives to explore new visions and new possibilities are being sought. Dr. Barnett provides a framework for understanding the old habits of thought and, with examples from his extensive experience, he discusses the ways in which the liberal arts--the humanities and the social sciences in particular--can aid the executive in creative reframing, leading to new approaches to business issues.

Business executives increasingly make decisions that have international or global implications. Too often they make them based on a limited framework for assessing other societies and the global marketplace. An example of just how difficult these decisions can become is what happened to Union Carbide in India.

Soon after the leakage of methyl isocyanate at the Union Carbide plant in Bhopal, India, and the deaths and injuries of thousands, Warren Anderson, President and

Chairman of the Board, decided to go to Bhopal. From an American perspective as a public relations (and ethically mandated) strategy, it made sense: a dramatic demonstration of the personal commitment and hands-on take charge leadership of a CEO responding to his company's crisis. However, Anderson was arrested and confined for a short period on arrival in India, and the Indian public did not regard his trip as showing commitment or as taking charge.

What went wrong? Despite modernization India retains aspects of a value system based on caste, rank, and hierarchy. In a caste system, leadership and high rank are conveyed by the ability to delegate. To have power means to control a range of activities performed by others, not to perform them yourself. For most Indians, going to jail is a shameful predicament--the era of Gandhian civil disobedience is long past. And so what Anderson actually demonstrated to Indians was not a committed CEO taking control but personal shame and a *loss* of control.

The global marketplace will increasingly require difficult decision-making in nontraditional arenas. MBA training does not make wiser managers in this international business setting. The skills required for these decisions typically are not found in the usual business courses. Yet some companies develop successful strategies and command the international marketplace. Those companies seem to have leaders able to see issues differently, leaders who can reframe problems, using a variety of lenses to refocus from different perspectives.

Why are some business executives able to do this? The answer is, in part, a creativity that eludes measurement but it also reflects a type of training that can best be described as a liberal arts education. Such an education, weaving a rich tapestry of historical, esthetic, and cross-cultural insights, allows unexpected ideas from multiple

sources. Rather than a narrowly focused education that can turn students into "one-trick ponies," a liberal arts education allows students to invoke different kinds of information and to apply innovative problem-solving methods.

Anticipating the Way Things Turned Out

In the 1950's, C.P. Snow, a scientist and novelist, described two cultures, one scientific, the other humanistic, where canons of demonstration, methods of discovery, and practical applications increasingly diverged until communications between them have become problematic. Snow was concerned that science would engulf the humanities, leaving them as an archaic backwater. The humanities needed to be more conversant with scientific discoveries, while scientists needed to enrich their discourse by understanding humanist perspectives. Snow has been roundly criticized over the years for inventing two cultures that never existed. But something of his insight remains, if only to describe two orientations to decision-making.

By the late 1960's, Daniel Bell optimistically predicted "the end of ideology," in a book with the same title. We were, so he wrote, moving toward a more practical world, where scientific insights would quickly translate into social policy and consumer products. Marshall McLuhan's "global village," intimately linked by communications and converging in values and consumption styles, seemed to echo Bell's vision of freedom from constricting, demagogic ideologies.

Now we can see that, although computer-based technology, global marketing and satellite communication have made, and will continue to make, enormous strides, Snow's vision--if not his specific examples--is closer to the mark than Bell's. There are outlines of a pragmatic, cosmopoli-

tan culture hard-pressed by resurgent traditional values and of rigid traditional decision-makers side by side with challenging innovators. Far from vanishing, ideology has re-emerged with a vengeance, in part as a reaction to rapid modernization in the less developed countries (as the fundamentalist Islamic Brotherhood demonstrates).

It has been suggested that the second half of the twentieth century is a reaction against the bold Enlightenment promise of the just, democratic society, rewarding citizens on merit and governing through the will of the people, where each individual is equivalent to the next and cultural difference does not count. Well, ideological and cultural differences apparently do count, as the Middle East, sub-Saharan Africa, continuing European nationalist strife, and ethnic tension in the USSR and Eastern Europe, India, Sri Lanka, and even tiny Fiji all prove.

Snow's two specific cultures--the no-nonsense scientist and the cultured humanist--are outdated and were overdrawn to begin with. Science has fractionated into minute creative niches and the humanities have flirted with scientific jargon. Creative work in science as well as in the humanities involves the reframing of starting points (think of "strings" replacing particles as the basic unit in physics). However, Snow's perspective continues to inform as two broad ways of thinking, one more rigid and focused, the other more free, almost playful. It is this openness, which seems to work best in international business, and which is difficult for many managers to adopt.

Business decisions tend to be made using narrow economic predictors and simple models of behavior, as though anything more complex somehow impedes the potential for action. Not only in business decisions but in many fundamental arenas (politics, religion, family) we are seeing an artificial simplicity, a harkening back to supposedly

clearer times as the basis for action. Why?

The Need to Act Based on "Getting It Right"

The beginning of an answer can be found in the internal landscape of decision-makers--the attitudes and connections among these attitudes that an individual accepts implicitly and which underlie conscious problem-solving. Understanding this internal landscape, or mind-set, is the clue to the acceptance of reductionist decision-making styles.

A good businessperson has the ability to solve problems, to be action and goal oriented, to think in systems terms, and to believe in and respond to the measures of success as defined by profit, salary, and position. While these are virtues for any executive, they are only so if the actual decisions make sense, if they work. If not, an action orientation deteriorates into sound and fury signifying nothing. There is a risk of categorizing too neatly, simplifying too quickly, generalizing too globally, and acting too decisively (unintentionally caricatured in *The One Minute Manager*).

To illustrate, about seven years ago, after a study of customer attitudes toward nuclear power in the Northeast, I was asked by the president of a major utility company with a nuclear power plant under construction to summarize research results and implications. Before I opened my mouth he said, "I don't want to know the details of your findings. Just tell me what button to push so my customers will love the company again." I had to reply, "There is no button," and although the research indicated specific customer programs to address his concerns, I could see immediately that he had mentally dismissed me. Seven years later, he is no longer president and the nuclear power

plant has never gone on-line. He exemplified the sound and fury style, superficially interested in action-oriented problem solving, but with an initially closed mind. Because I could not solve his problems in his terms, he saw me as nothing more than a time waster.

In all walks of life there are people who think there is one way to do things based on a single "correct" understanding of an issue and others who constantly reassess their actions by seeing the same issue from different perspectives. The underlying dimensions of the action-oriented mind-set that applies to many business executives are based on the following:

- There is *a knowable reality* that can be understood in terms directly applicable to product development and positioning.
- The *two primary aspects* of this knowable reality are *economics* and *human needs*. Economic knowledge and theory is assumed to be the same for all societies and so are basic human needs. The reality that a business executive strives to understand emphasizes what universal needs a product can satisfy profitably.
- A *model* is the form knowable reality takes. A model is *causal* and *linear* (although it may have occasional feedback loops). Linear, causal models are templates for action; they are to a business executive what a blueprint is to an architect.
- *The future is predictable.* Models can assess future needs and economic implications with enough accuracy so that business planning can be based on these models.
- Because models of reality are knowable and predictable, and because they adhere to clear economic and behavioral principles, a practical decision-maker *should be able to make rational decisions* and be judged

on the rightness or wrongness of these decisions, that is, are things going according to plan?

- Despite the knowability of reality matters often remain confusing. One model can differ from another, although both models may be driven by economics and human needs. *Better research and clearer models* should resolve these ambiguities.

This mind-set should strike most readers as unexceptional, almost as common sense. But common sense, because it is unexamined, can prove treacherous. Supposedly true for all time, common sense is really historically defined. The ideas that the earth is flat or that heavy objects fall faster than light objects were common sense at one time. Knowledge expands by confuting common sense, by showing there is another way to look at accepted truths.

Since common sense is taken for granted, challenging it requires "reframing"--looking at something commonplace from a new perspective. The ability to reframe is limited by any mind-set that claims only one outcome, only one way to solve a problem.

The assumptions of the single focus mind-set are becoming outdated, especially in terms of doing business on a global scale. They result in decisions that may look good on paper, but do not seem to work out well.

Each assumption is problematic:

- *Knowable reality*. Without reinventing 3,000 years of philosophy, and while recognizing the striking advances of the physical and biological sciences, it is still safe to say there has been a retreat from a too optimistic application of physical science frameworks to the social sciences (including economics) and the humanities. The grand systems of the 1940's and 1950's (Talcott Parsons in sociology, Arnold Toynbee in history, Abraham Maslow in social psychology) have not

borne fruit and analysts now are content with understanding less, but understanding it better. "Better" means respecting the complexity of a small piece of information and not forcing it to fit the needs of massive system building. The hubris of encompassing everything in a system is gone.

- *Primacy of economics and human needs.* The 1970's were the heyday of macroeconomic modeling. Academics formed companies to sell their models to business, and they sold well. For a while, every major company had to have its industry-specific macroeconomic model. By the end of the decade, it was apparent that while these models were mathematically sophisticated and could crunch vast data-bases, they were just not accurate enough to use confidently as planning guides. Accuracy was wanting when it was needed most, for example, during the oil price and supply shock of the mid-1970's. Many of these models had to exclude political, social, and historical aspects of behavior in order to allow the elegant mathematics to work, thus they lost contact with everyday experience.

  Just as the macroeconomic modeling of the 1970's has passed its Andy Warhol 15 minutes of stardom, the needs models of the 1980's are suffering a similar fate. Theorists either built complex systems using one social psychological approach or invented ad hoc categories of needs and behavior called "lifestyles" through administering questionnaires. Marketing researchers claimed to be able to identify needs and consumption patterns as if the failure of social science models never occurred. Asking questions is a weak method for understanding human behavior. Observation, a sense of history, and careful hypothesis testing are more ef-

fective but they are not part of the way marketing research routinely functions.

- *Linear and causal models.* As macroeconomics and needs models failed to live up to promises, the idea of building comprehensive models lost cachet and momentum. The innocent hope of capturing human diversity in consumer models has been shattered by pet rocks. Even models that focus on growth of new technology run into the "Catch 22" problem that the next technological innovation cannot be predicted in advance. Superconductivity research has already made very recent models of fast computer use in business obsolete.
- *Predictability of reality.* Futurists hit or miss about half of the time (or statistically randomly). We have no better methods for predicting the future than did Nostradamus. Herman Kahn was wrong about Japan's economic future, right about some other things. Charles Reich was wrong about the "greening of America" and the adoption by the whole society of "1960's values." And some megatrends will prove off the mark. Futurism is business astrology. Business planners need some sense of the future and so they hire futurists, right or wrong, just as people who consult astrologers continue even if their predictions fail.

The confidence of predictors in the 1970's has been shaken by looking at their accuracy in the 1980's. Futurists either build large models and extrapolate, invoke some special trick, or simply intuit. Massive, computer-driven models tend to predict Doomsday (for example, the Club of Rome's world ecological disaster simulations) because they cannot take into account modified behavior as the crisis approaches. Tricks, like Naisbitt's content analysis of small town

newspapers, can inform, but there is no magic wand for capturing today's multi-directional change. Intuition is just that--sticking one's finger in the wind; ultimately it depends on what the analyst had for breakfast that morning.

- *Better research will result in bigger and better models* -- It simply has not happened. Instead, we see model wars, where the proponents of each model claim, but do not demonstrate, superiority. A well known economic forecaster, on the "to hell with resolving differences" principle, averages the results of all major macroeconomic forecasting models and candidly calls that his own forecast.

If we are moving inexorably away from a simplistic single-focus mind-set, if its underlying dimensions increasingly resemble a flat-earth orientation in a round-world epoch, how can business executives adapt? Is there an alternative to this mind-set, and can it be applied to essential business activities like product development, the production process, and long-term strategy?

Reframing: Action Emerges from a Changed Perspective

Any alternative should provide a set of underlying dimensions that lead to more sophisticated decisions, in business and elsewhere. Looking back at Snow's framework, we can see that he was really describing two languages, two ways of speaking about the world around us. There have been significant developments in how we create that world of meaning from the language and concepts found in linguistics, anthropology, history, philosophy, and literary criticism. Each of these fields is undergoing far-reaching revisions, resulting in fewer global theories and

more attention to and respect for understanding each period, culture, poem, or philosopher on its own terms.

Philosophers now try to understand how contemporaries read, say, Kant; how his use of words and concepts fit into the society of his time. Historians focus on recreating how past periods were experienced at that time. Criticism involves seeing a work of art as playing off historical styles, not simply transcending history. Linguists stress the contexts of speech, not only formal grammar. Anthropologists respect the integrity of other societies, not viewing them as stages in some grand evolutionary scheme.

The key to these developments is based upon new theories of interpreting events, objects, and documents as "texts"--a novel, philosophical argument, poem, painting, religious ritual, anything which can be bound or is full of complex meanings. Instead of searching for the one "real" meaning, current styles of interpretation emphasize the legitimacy of different meanings for different readers or participants. Such a perspective focuses on the forms of a text, how symbols and viewpoints can interrelate in many ways. Perceiving multiple meanings is another way of saying the creative reader will always have new ways of looking at old texts.

From the perspective of what is most useful to business decision-makers, this theoretical ferment suggests that:

- *Reality is not absolute*, not something out there to be discovered once and for all. Reality can only be perceived by someone at some time. Both the person and the historical period will affect perception. In an influential book *The Structure of Scientific Revolutions*, Thomas Kuhn argued that reality is perceived through paradigms--orienting frameworks that are part unconscious historically-based assumptions and part the con-

scious attempt to make progress. True scientific revolutions break paradigms; they present reality in profoundly altered ways that at first defy common sense and accepted logic. Think of Einstein's paradigm-breaking insights on the constant speed of light and the centrality of the observer's frame of reference versus the fixed, observer-free universe of Newton.

- *Reframing is the way paradigms change.* Paradigms are the lenses through which we view the world, and which orient us in that world. They bound and define what is important, what we should pay attention to. When we reframe, we change lenses, choosing one that lets us see what was previously taken for granted. Like the trick drawing in which one sees either a goblet or two heads in profile, reframing can point to new paths for arriving at creative decisions.
- *The ability to reframe can be taught.* Since reframing (changing lenses) involves drastically altering accepted views of reality or of a problem, the more diverse inputs a decision-maker can invoke, the greater the chance for unusual problem-solving. Typically, business decision-makers rely on economics, but reframing requires perspectives from the liberal arts. The skills of interpreting the "texts" mentioned above are critical to reframing business problems in the global marketplace.
- If reframing applies to present business problems, it is also helpful in conceptualizing the future or, better, multiple futures. Since we cannot know the future, why pretend otherwise? Creating, imagining, and fleshing out *alternate futures based on different paradigms is central to long-term planning.* This implies planning for quite distinct futures and being able to change plans along the way, rather than homogenizing

a number of futures into the "most likely," usually most banal, case.

- In a paradigmatic world where reframing opens new realities and futures, *models become metaphors for one frame, not approximations of a final, knowable reality.* As metaphors they compellingly organize and represent the view through a particular lens. Models can tell us stories about an issue that help in making decisions. A good decision-making model creates a complex, interesting world in which the implications of a decision can be seen whole, not simply in spread-sheet terms. International business managers are becoming tellers of tales, using compelling images to convince other managers, or at least engage their interest.

Do Paradigmatic Realities Work?

This alternate mind-set is all well and good, perhaps, but what use are these paradigms, lenses, and multiple futures when there are products to be developed and money to be made? The traditional decision-maker was oriented toward linear and causal model building, aimed at discovering the "correct" description of the situation prior to solving a problem. The alternate mind-set is interpretive, finding more than one meaning in a book or more than one order in a painting. This sort of pattern recognition is not part of most business training, yet smart business decisions can result from a perspective that turns the decision-maker into a careful observer, able to reframe a problem from different angles and arrive at innovative solutions.

The following actual case studies of creative reframing cover three critical areas of global business activity: new product development for non-Western consumers, new

worker demands and the changing workplace, and strategic planning for an uncertain future. Each illustrates one or more aspects of the alternate mind-set: paradigmatic reality, reframing and choosing lenses, diverse sources of information, multiple futures, and the importance of telling compelling stories.

Case Study 1
Colgate-Palmolive Soap Paste:
Latin American Dishwashing Styles

Marketing U.S. products to the less developed countries poses problems of differences in styles and customs. People in those countries may not recognize how the product is supposed to be used, as in the amusing case of introducing cornflakes to Brazil but forgetting to mention adding milk. Brazilians were eating their cornflakes dry and not really enjoying them.

Most products are marketed intact. The same product advertised, distributed and sold in the United States is advertised, distributed and sold in Country X. Colgate-Palmolive was doing that with products for washing clothes and dishes. But the company changed lenses and created a new type of product when the opportunity arose.

The new lens was observation based: how did women in Latin America use soap for washing clothes and dishes. Cultural anthropology is the discipline that developed observational, field research to learn how other societies organize the details of their everyday lives. In this case a Colgate-Palmolive researcher observed that women used a bar of soap to wash clothes, rubbing the bar vigorously on each item of clothing. When the bar was too small to be effective, it was mixed with other soap bar ends to form a paste for doing dishes. This homemade soap paste was strongly preferred to any soap product marketed for doing

dishes.

The researcher reported this, and at most companies that is as far as the observation would have gone--a quaint example of "native" customs, but not the product we make. However, Colgate-Palmolive executives were able to reframe their perceptions and see soap paste as a possible new product for Latin America. They were helped by the researcher who made videotapes of women washing clothes and dishes to make her story more immediate and convincing.

And they persisted through difficult product development and testing. When the paste (called "Axion") was marketed, Latin American women responded positively, and Colgate-Palmolive quickly gained market share against dominant Procter & Gamble brands.

This is a straightforward example of reframing. Observation was taken seriously (in part, because it was communicated engagingly) and a new product concept was created. Instead of trying to find ways to market standard products (lens one), a new way of thinking, observation of actual use (lens two), led to innovation and consumer acceptance.

Case Study 2
The Volvo Workplace:
The Assembly Line Stops Here

Like all automobile manufacturers, Volvo used an assembly line approach which was assumed as necessary, little modified from Henry Ford's original system. Social unrest in the late 1960's and advancing technology affected Volvo as much as other European and American companies, challenging the traditional acceptance of assembly line manufacturing procedures. But Volvo's response was unique. Unlike companies that confronted worker de-

mands, improved assembly line procedures, and created pay incentives related to productivity (all to retain the assembly line), Volvo reframed the issue of assembly line production at a new plant, the Kalmar facility on the Swedish coast.

At that plant a philosophical and humanistic view of people as complex adults replaced the assumption of the assembly line worker as an unthinking cog in automated production processes. Volvo's management, rather than simply pressing on with standard business logic and accepted wisdom, said that production must be rewarding to those involved in that production and sponsored pioneering research on the history and sociology of work. Volvo Chairman and CEO Pehr Gyllenhammar was quoted by the *New York Times* (June 23, 1987) as saying, "It was clear we had to offer workers something besides pay."

From a management as well as worker perspective, assembly line production was a repetitive, dehumanizing activity in which workers had no chance to be creative or to set their own work pace. As Gyllenhammar wrote in the *Harvard Business Review*,

> We begin to find today the symptoms of a new industrial illness. We invent machines to eliminate some of the physical stresses of work, and then we find that psychological tensions cause even more health and behavior problems. People don't want to be subservient to machines and systems. They react to inhuman conditions in very human ways: by job-hopping, absenteeism, apathetic attitudes, antagonism, and even malicious mischief. From the employee's viewpoint this behavior is perfectly reasonable. The younger he or she is, the stronger his or her reactions are likely to be. The people entering the work force today have received more education than ever before

in history. Society has educated them to regard themselves as mature adults, capable of making their own choices. By offering them jobs in our over-organized industrial units, we offer them jobs where they have virtually no choices. For eight hours a day, managers regard them as children, ciphers, or potential problems--and manage or control them accordingly. (*HBR*, July-August 1977)

Gyllenhammar and his management team reframed the issue so that efficient production was not seen simply as an "economic problem" (lens one) but as a people problem (lens two). At Kalmar, Volvo scrapped much of the assembly line in favor of work teams that put together distinct units--the engine or the electrical system, for example. In each team of about 20 workers, a person does a series of tasks, not the endless bolt tightening that drove Charlie Chaplin bonkers in *Modern Times*.

Volvo also reframed the question of managerial skills to fit the work team concept. As a result of letting workers coordinate skills and creativity, most foremen and managers at Kalmar come from the work force--they are not specialists brought in from the outside. Gyllenhammar explained,

> Most of the people promoted to foremen's positions had been skilled employees who could solve technical problems. To keep people working, they became disciplinarians, expert at saying "thou shalt not." Suddenly we asked foremen to develop a rather different set of skills. We wanted them to be good managers of people. Instead of people receiving discipline from the supervisor, the new climate emphasizes self discipline. In the new circumstances, foremen needed considerable training to regard themselves as information-gatherers, as aids to the employees, as teachers and

consultants, rather than bosses. (*Harvard Business Review*, July-August 1977)

Kalmar worked, although not without problems, false starts, and internal Volvo opposition. The advantages of a work-team approach have paid off in a number of areas. Worker suggestions resulted in significant improvements in inventory and usage of space. Small design changes can be made anytime, not limited by the large system requirements of an automated assembly line. Production problems can be resolved more quickly than at other auto manufacturers because problems can be immediately spotted and changes in work technique implemented almost at once. Volvos began to be produced more efficiently and there has been a steady penetration of Volvo in the U.S. foreign car market. Today Volvo is the largest seller of upscale European imports.

The reframing experiment was so successful that Volvo is planning the next step: the complete elimination of the assembly line concept in a new plant at Uddevalla, scheduled to start production in the last quarter of 1988.

Uddevalla will have a standstill production system, with the car remaining in one place, surrounded by a work team which will build it from scratch. Parts and material will be shuttled to the work station. Gyllenhammar says of Uddevalla, "I want the people in a team to be able to go home at night and really say, 'I built that car.' That is my dream."

This is a more complex reframing than marketing a soap paste in Latin America. Volvo management did not start with standard economic arguments about assembly line efficiency, but chose to develop a philosophical, psychological, and sociological perspective on the nature of work and modern society. In fact, Volvo efficiency and quality increased at the Kalmar facility, and Volvo looks

for further improvements once Uddevalla starts producing.

Case Study 3
Royal Dutch/Shell:
Images of an Unknowable Future

All large companies forecast the economic future they think is relevant to their business. The point is to minimize uncertainty. Even if economic forecasts are off and the actual future turns out differently from the one predicted, the response remains, "We still need forecasts to limit uncertainty and narrow the scope of our planning."

Royal Dutch/Shell tried a different frame: accepting (lens two), not artificially limiting (lens one), uncertainty. Pierre Wack, one of the key developers of the Shell scenario approach to business planning explained,

> The way to solve this problem is not to look for better forecasts by perfecting techniques or hiring more or better forecasters. Too many forces work against the possibility of getting the right forecast. The future is no longer stable; it has become a moving target. No single, right projection can be deduced from past behavior. The better approach, I believe, is to accept uncertainty, try to understand it, and make it part of our reasoning. Uncertainty today is not just an occasional, temporary deviation from a reasonable predictability, it is a basic structural feature of the business environment. (*Harvard Business Review*, September-October 1985)

Shell scenarios went beyond economic forecast numbers to tell compelling stories based on political, psychological, biological, historical, and philosophical insights. Wack wrote:

...we borrowed the concept of archetypes from psy-

chology. Just as we often view individuals as composites of archetypes (for example, part introvert and part extrovert), so we developed governmental archetypes to help us examine differing national responses. In our view, nations would favor either a market-force or government-intervention (*dirigiste*) approach. No country would follow one path exclusively. We expected, for example, that West Germany's response would be more market oriented, whereas France's would be more *dirigiste*.... From studying evolution, we learn how an animal suited to one environment must become a new animal to survive when the environment undergoes severe change. We believed that Shell would have to become a new animal to function in a new world. Business-as-usual decisions would no longer suffice. (*Harvard Business Review*, September-October 1985)

The key to reframing for Shell was not to presage an actual future but to stimulate and challenge the mind-sets (in Shell terminology, "microcosms") of Shell managers. Instead of a scenario's primary objective being the anticipation of a real future (lens one), the primary objective became interactive (lens two), to engage and challenge the taken for granted assumptions of a manager's decision-making process. Wack observed,

> A company's perception of its business environment is as important as its investment infrastructure because its strategy comes from this perception.... From the moment of this realization, we no longer saw our task as producing a documented view of the future business environment five or ten years ahead. Our real target was the microcosms of our decision-makers: unless we influenced the mental image, the picture of reality held by critical decision-makers, our scenarios would

be like water on a stone.... We had first tried to produce scenarios that we would not be ashamed of when we subsequently compared them with reality. After our initiation with these first sets of scenarios, we changed our goal. We now wanted to design scenarios so that managers would question their own model of reality and change it when necessary, so as to come up with strategic insights beyond their minds' previous reach.

By presenting other ways of seeing the world, decision scenarios allow managers to break out of a one-eyed view. Scenarios give managers something very precious: the ability to re-perceive reality. In a turbulent business environment, there is more to see than managers normally perceive. Highly relevant information goes unnoticed, because, being locked into any one way of looking, managers fail to see its significance. (*Harvard Business Review*, September-October 1985)

Not satisfied with scenarios which are simply presented to management, Shell planners took great care to develop stories and themes (using, for example, water metaphors--rapids, turbulence, rivers dividing). Planners took these themes to Shell companies around the world, presenting them in intense, interactive sessions.

The oil price and supply crisis of 1973 tested the Shell scenario approach :

...we wanted the 1973 scenarios to be more than water on a stone: we wanted to change our managers' view of reality. The first step was to question and destroy their existing view of the world in which oil demand expanded in orderly and predictable fashion, and Shell routinely could add oil fields, refineries, tankers, and marketing outlets. (*Harvard Business Review*, Septem-

ber-October 1985)

Shell planning scenarios had to engage the mind-set of managers and initiate reframing along these dimensions:

- Oil exploration and production would shift from traditional concessions and mining rents to loss of profit base and difficult re-negotiations with producing nations.
- Oil refining and marketing would shift from a high-growth industry with oil demand growing faster than GNP to a low-growth industry with oil demand not matching GNP growth.
- Centralized planning and strategy would become more decentralized as the energy shock affected each nation differently.

These are basic re-orientations to a long-assumed reality, very difficult for an experienced oil manager to accept or even to recognize. But when the oil embargo of 1973 hit, Shell managers were prepared to scrap standard oil industry business logic and reframe their business perceptions. Shell emerged strongest of all major oil companies from this energy shock. They reduced production most quickly, developed individual nation strategies, and were financially prepared for a major global recession.

However, the reframing of 1973, drastic as it was, was not enough. Shell also needed to gear up for the economic recovery of 1976-1978. Again, reframing was the key, as Shell scenarios challenged managers with counter-intuitive lenses that argued for a strong and rapid recovery, one that was oil-intensive (consumers would quickly revert to previous behavior patterns), a United States that would again rely heavily on oil imports, and an alternate energy illusion, full of promises but short on delivery. Once again, Shell scenarios created compelling stories that managers responded to positively.

The 1976-1978 recovery was followed by a slow down, necessitating yet another reframing. This third reframing for the 1980's has resulted in new Shell scenarios, challenging the assumption of a continuing recovery and suggesting an overall low energy growth path for the 1980's.

Cumulatively, these scenarios have uniquely positioned Royal Dutch/Shell through the surprise-filled decade of the 1970's and the complex, fundamental-change decade of the 1980's. Shell managers have grown accustomed to being challenged and now take up different lenses with something approaching acceptance.

At Shell the scenario approach has been extended to studies of country futures (e.g., USSR, China). These involve specialists from all fields looking at the implication of traditional values, history, esthetics, economics and other characteristics in terms of evaluating investment potentials for Shell. The environment of scenario discussions is one of productive, free-ranging debate, not the traditional business-planning environment encountered at many companies.

As part of a sabbatical program, Shell hires for one year outstanding academic thinkers from around the world, including historians, social psychologists, and philosophers. There are senior level Shell employees whose major job is finding these people and directing them toward Shell. These academics ask tough questions based on the specific orientations of their disciplines. Initially, such complexity makes scenario construction more difficult, almost impossible, but that is just what Shell planners want. Any convergence of thinking that follows will not be based on simple or artificially narrow starting points.

Royal Dutch/Shell, through their scenario approach and hiring policy, has taken the notion of paradigmatic realities, reframing, and storytelling as far as any company,

making it the heart of their longer-term (and increasingly, shorter-term) planning strategy. They recognize the impossibility of knowing the future, yet through encouraging management to re-perceive, Shell has planned effectively through the oil crises of the 1970's and 1980's.

Conclusion: Reframing and the Liberal Arts

As more business managers find themselves in unfamiliar territory, either expanding a business to international markets or planning for a global economy, business-as-usual simply does not apply. For these managers, a comforting, knowable reality that responds to models developed over the years is yanked from under them. They must rethink, reframe and innovate. The emerging global economy is a new phenomenon. Old decision models, old realities, old skills must be modified.

Yet not all companies adapt, even as profits fall and markets shrink. Some companies, and even entire industrial sectors, are lulled into complacency if they control dominant market share, rejecting reframing as potentially killing the goose that is laying their golden eggs. The demise of the U.S. railroad industry followed an inability to accept change because of a false sense of permanence. Companies can rapidly age sclerotically if the creativity of the founder becomes hallowed truth for succeeding owners or managers.

Companies that consistently and successfully rethink their business assumptions seem to institutionalize reframing from the top down--in management retreats; by developing innovative strategic plans; by creating groups that are authorized to reframe. They give these reframing groups clout--reporting to the CEO, having a significant budget, and receiving implementation authority. Without

the active encouragement of senior management (especially the CEO), reframing is going out on a long, thin limb.

Because more effective global business decisions can emerge from a reframing process, business managers need to be trained to change lenses. More companies are acknowledging this, and a thriving consulting practice has developed that guides managers through sets of reframing exercises. But the popularity of these consultants suggests a prior issue--what was lacking in the educational experience of business managers that now has to be corrected? Why wait until a manager's career is well launched? Why not develop and inculcate reframing skills in undergraduate education?

Liberal arts courses encourage reframing. Additionally, liberal arts courses can provide the knowledge depth needed to conceptualize imaginatively. With a creative surge in the liberal arts, including new insights in interpretation and reframing, there is the possibility of a marriage between the latest in humanist scholarship and hard-nosed business decisions. To a remarkable degree, the liberal arts can provide the necessary skills required by the global business decision-maker in a volatile political and economic world.

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